ETSI TS 132 447 V9.0.0 (2010-04)

Technical Specification

Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Trace Management Integration Reference Point (IRP):
SOAP Solution Set (SS)
(3GPP TS 32.447 version 9.0.0 Release 9)

Reference
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Foreword

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The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

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  - 1 presented to TSG for information;
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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

32.441 "Trace Management Integration Reference Point (IRP): Requirements".

32.442 "Trace Management Integration Reference Point (IRP): Information Service (IS)".

32.443 "Trace Management Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

32.445 "Trace Management Integration Reference Point (IRP): eXtensible Markup Language (XML) file format definition".

32.447 "Trace Management Integration Reference Point (IRP): SOAP Solution Set (SS)".

The present document is part of a TS-family which describes the information service necessary for the Telecommunication Management (TM) of 3G systems. The TM principles and TM architecture are specified in 3GPP TS 32.101 [2] and 3GPP TS 32.102 [3].

Trace provides very detailed information on call level for a specific subscriber or MS. This data is an additional information source to Performance Measurements and allows deeper investigations in problems solving or in case of optimization.

1 Scope

The present document specifies the SOAP Solution Set for the IRP whose semantics are specified in Trace Management IRP: Information Service (3GPP TS 32.442 [5]).

This Solution Set specification is related to 3GPP TS 32.442 V9.0.X.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".

[3] 3GPP TS 32.102: "Telecommunication management; Architecture".

[4] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".

[5] 3GPP TS 32.442: "Telecommunication management; Trace Management Integration Reference Point (IRP): Information Service (IS)".

[6] 3GPP TS 32.445: " Trace Management Integration Reference Point (IRP): eXtensible Markup Language (XML) file format definition".

[7] W3C SOAP 1.1 specification (http://www.w3.org/TR/2000/NOTE-SOAP-20000508/)

[8] W3C XPath 1.0 specification (http://www.w3.org/TR/1999/REC-xpath-19991116)

[9] W3C WSDL 1.1 specification (http://www.w3.org/TR/2001/NOTE-wsdl-20010315)

[10] W3C SOAP 1.2 specification (http://www.w3.org/TR/soap12-part1/)

[11] 3GPP TS 32.307: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): SOAP solution set".

[12] 3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management; Information Service (IS)"

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1], 3GPP TS 32.101 [2], 3GPP TS 32.102 [3], 3GPP TS 32.150 [4] apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1], in 3GPP TS 32.101 [2], 3GPP TS 32.102 [3], 3GPP TS 32.150 [4], and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

4 Architectural features

4.1 General

The overall architectural feature of the Trace Management IRP is specified in 3GPP TS 32.442 [4]. This clause specifies features that are specific to the SOAP solution set.

The SOAP 1.1 specification [7] and WSDL 1.1 specification [9] are supported.

The SOAP 1.2 specification [10] is supported optionally.

This specification uses "document" style in WSDL file.

This specification uses "literal" encoding style in WSDL file.

The filter language used in the SS is the XPath Language (see W3C XPath 1.0 specification [8]). IRPAgents may throw a FilterComplexityLimit fault when a given filter is too complex.

The Trace Management IRP SOAP SS uses the Notification IRP SOAP SS of 3GPP TS 32.307 [11]. The IRPAgent shall support the push interface model, which means that the IRPAgent sends trace management notifications to the IRPManager as soon as new events occur. The IRPManager does not need to check ("pull") for events.

Relevant definitions are imported from the Trace Management IRP XML definitions of 3GPP TS 32.445 [6].

This specification uses a number of namespace prefixes throughout that are listed in Table 4.1. 1.

Table 4.1.1: Prefixes and Namespaces used in this specification

PREFIX	NAMESPACE
(no prefix)	http://schemas.xmlsoap.org/wsdl/
soap	http://schemas.xmlsoap.org/wsdl/soap/
traceRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPSystem
traceIRPData	http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPData
xti	http://www.3gpp.org/ftp/specs/archive/32_series/32.445#tMIRPIOCs
xn	http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm
genericIRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-810/GenericIRPSystem
ntfIRPNtfSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-810/ notification/NotificationIRPNtfSystem

The WSDL structure is depicted in Figure 4.1.1 below, depicting port type, binding and service. The port type contains port type operations, which again contains input, output and fault messages. The binding contains binding operations, which have the same name as the port type operations. The binding connects to a port inside the service.

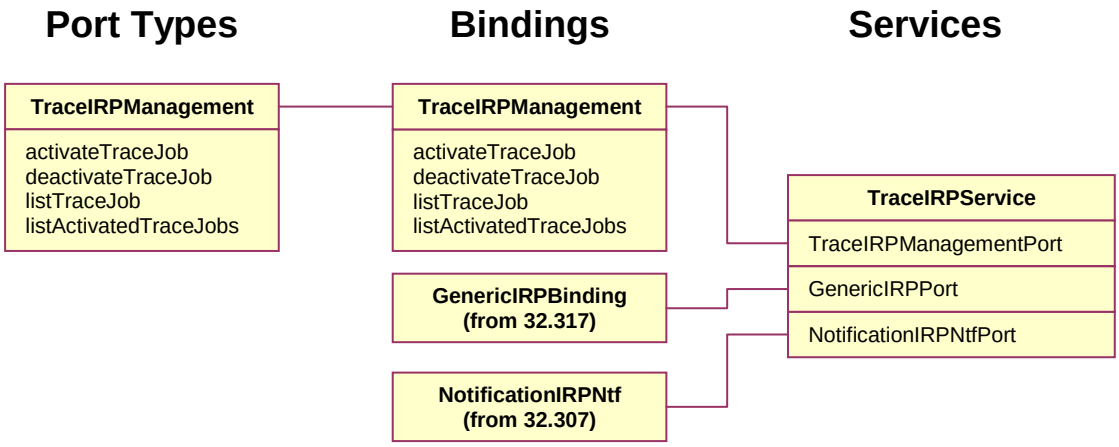

Figure 4.1.1: Trace Management IRP SOAP Solution Set WSDL structure

5 Mapping

5.1 Operation and notification mapping

The Trace Management IRP IS (3GPP TS 32.442 [5]) defines semantics of operation and notification visible across the Itf-N. Table 5.1.1 indicates mapping of these operations and notifications to their equivalents defined in this SS.

Table 5.1.1: Mapping from IS Operation to SS Equivalents

IS Operations in 3GPP TS 32.442 [5]	SS Operations	SS Port	Qualifier
activateTraceJob	activateTraceJob	TraceIRPManagementPort	M
deactivateTraceJob	deactivateTraceJob	TraceIRPManagementPort	M
listTraceJob	listTraceJob	TraceIRPManagementPort	M
listActivatedTraceJobs	listActivatedTraceJobs	TraceIRPManagementPort	O
notifyTraceRecordingSessionFailure	notify (note 1)	NotificationIRPNtfPort	O
notifyTraceSessionLocalActivation	notify (note 1)	NotificationIRPNtfPort	M
NOTE 1: The IS equivalent maps to an XML definition specified in 3GPP TS 32.445 [6], and this being an input parameter to the operation notify under the port type ntfIRPNtfSystem:NotificationIRPNtf and under the binding ntfIRPNtfSystem:NotificationIRPNtf of 3GPP TS 32.307 [11].			

5.2 Operation parameter mapping

The Trace Management IRP IS (3GPP TS 32.442 [5]) defines semantics of parameters carried in the operations. The tables below show the mapping of these parameters, as per operation, to their equivalents defined in this SS.

Table 5.2.1: Mapping from IS `activateTraceJob` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
iOCInstance	iOCInstance	M
listOfInterfaces	listOfInterfaces	O
listOfNeTypes	listOfNeTypes	CM
traceDepth	traceDepth	M
traceReference	traceReference	M
traceTarget	traceTarget	M
triggeringEvent	triggeringEvent	CO
traceCollectionEntityAddress	traceCollectionEntityAddress	CM
unsupportedList	unsupportedList	M
status	status	M

Table 5.2.2: Mapping from IS `deactivateTraceJob` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
traceReference	traceReference	M
traceTarget	traceTarget	M
traceRecordingSessionReference	traceRecordingSessionReference	CM
status	status	M

Table 5.2.3: Mapping from IS `listTraceJob` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
traceReference	traceReference	M
iOCInstance	iOCInstance	M
listOfInterfaces	listOfInterfaces	O
traceDepth	traceDepth	M
traceRecordingSessionReference	traceRecordingSessionReference	CM
traceTarget	traceTarget	M
triggeringEvent	triggeringEvent	O
traceCollectionEntityAddress	traceCollectionEntityAddress	CM
status	status	M

Table 5.2.4: Mapping from IS `listTraceJobs` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
traceReferenceList	traceReferenceList	M
status	status	M

5.3 Notification parameter mapping

The Trace Management IRP IS (3GPP TS 32.442 [5]) defines semantics of parameters carried in notifications. The following tables indicate the mapping of these parameters to their SS equivalents.

Table 5.3.1: Mapping for `notifyTraceRecordingSessionFailure`

IS Parameters	<SS> Parameters	Qualifier	Comment
objectClass	objectClass	M	
objectInstance	objectInstance	M	
eventTime	eventTime	M	
notificationType	notificationType	M	
systemDN	systemDN	M	
notificationID	notificationID	O	
traceRecordingSessionReference	traceRecordingSessionReference	O	
traceReference	traceReference	M	
reason	reason	O	

Table 5.3.2: Mapping for `notifyTraceSessionLocalActivation`

IS Parameters	<SS> Parameters	Qualifier	Comment
objectClass	objectClass	M	
objectInstance	objectInstance	M	
eventTime	eventTime	M	
notificationType	notificationType	M	
systemDN	systemDN	M	
notificationID	notificationID	O	
traceReference	traceReference	M	
traceTarget	traceTarget	M	
iOCInstance	iOCInstance	M	

Annex A (normative): WSDL specifications

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
   3GPP TS 32.447 Trace Management IRP SOAP Solution Set
-->
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:traceIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPSystem"
xmlns:traceIRPData="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPData"
xmlns:xn="http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
xmlns:genericIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
810/GenericIRPSystem"
xmlns:ntfIRPNtfSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-
810/notification/NotificationIRPNtfSystem"
targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPSystem">
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
810/GenericIRPSystem"/>
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-
810/notification/NotificationIRPNtfSystem"/>
  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRPData"
xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:xti="http://www.3gpp.org/ftp/specs/archive/32_series/32.445#tMIRPIOCs">
      <!-- activateTraceJob Request -->
      <element name="activateTraceJobRequest">
        <complexType>
          <sequence>
            <element name="iOCInstance" type="xn:dn"/>
            <element name="listOfInterfaces" type="xti:ListOfInterfaces" minOccurs="0"/>
            <element name="listOfNeTypes" type="xti:ListOfNeTypes" minOccurs="0"/>
            <element name="traceDepth" type="xti:TraceDepth"/>
            <element name="traceReference" type="unsignedLong"/>
            <element name="traceTarget" type="xti:TraceTarget"/>
            <element name="triggeringEvent" type="xti:TriggeringEvent" minOccurs="0"/>
            <element name="traceCollectionEntityAddress" type="string" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- activateTraceJob Response -->
      <element name="activateTraceJobResponse">
        <complexType>
          <sequence>
            <element name="status">
              <simpleType>
                <restriction base="string">
                  <enumeration value="Success"/>
                  <enumeration value="Failure"/>
                  <enumeration value="PartialSuccess"/>
                </restriction>
              </simpleType>
            </element>
            <element name="unsupportedList" type="xti:UnsupportedList" minOccurs="0"/>
            <element name="failureReason" minOccurs="0">
              <simpleType>
                <restriction base="string">
                  <enumeration value="invalidTraceDepth"/>
                  <enumeration value="invalidListOfInterfaces"/>
                  <enumeration value="invalidTraceTarget"/>
                  <enumeration value="notuniqueTraceReference"/>
                  <enumeration value="operation_failed"/>
                  <enumeration value="operation_failed_invalid_input_parameter"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_listOfInterfaces"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_listOfNeTypes"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_triggeringEvent"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_traceCollectionEntityAddress"/>
                  <enumeration value="operation_failed_internal_problem"/>
                </restriction>
              </simpleType>
```

```
      </element>
    </sequence>
  </complexType>
</element>
<!-- activateTraceJob Fault -->
<element name="activateTraceJobFault">
  <simpleType>
    <restriction base="string">
      <enumeration value="OperationFailed"/>
    </restriction>
  </simpleType>
</element>
<!-- deactivateTraceJob Request -->
<element name="deactivateTraceJobRequest">
  <complexType>
    <sequence>
      <element name="traceReference" type="unsignedLong"/>
      <element name="traceTarget" type="xti:TraceTarget"/>
    </sequence>
  </complexType>
</element>
<!-- deactivateTraceJob Response -->
<element name="deactivateTraceJobResponse">
  <complexType>
    <sequence>
      <element name="status">
        <simpleType>
          <restriction base="string">
            <enumeration value="Success"/>
            <enumeration value="Failure"/>
          </restriction>
        </simpleType>
      </element>
      <element name="traceRecordingSessionReference" type="integer" minOccurs="0"/>
      <element name="failureReason" minOccurs="0">
        <simpleType>
          <restriction base="string">
            <enumeration value="notuniqueTraceReference"/>
            <enumeration value="operation_failed"/>
            <enumeration value="operation_failed_internal_problem"/>
          </restriction>
        </simpleType>
      </element>
    </sequence>
  </complexType>
</element>
<!-- deactivateTraceJob Fault -->
<element name="deactivateTraceJobFault">
  <simpleType>
    <restriction base="string">
      <enumeration value="OperationFailed"/>
    </restriction>
  </simpleType>
</element>
<!-- listTraceJob Request -->
<element name="listTraceJobRequest">
  <complexType>
    <sequence>
      <element name="traceReference" type="unsignedLong"/>
    </sequence>
  </complexType>
</element>
<!-- listTraceJob Response -->
<element name="listTraceJobResponse">
  <complexType>
    <sequence>
      <element name="iOCInstance" type="xn:dn"/>
      <element name="listOfInterfaces" type="xti:ListOfInterfaces" minOccurs="0"/>
      <element name="status">
        <simpleType>
          <restriction base="string">
            <enumeration value="Success"/>
            <enumeration value="Failure"/>
          </restriction>
        </simpleType>
      </element>
      <element name="traceDepth" type="xti:TraceDepth"/>
      <element name="traceRecordingSessionReference" type="integer" minOccurs="0"/>
```

```
          <element name="traceTarget" type="xti:TraceTarget"/>
          <element name="triggeringEvent" type="xti:TriggeringEvent" minOccurs="0"/>
          <element name="traceCollectionEntityAddress" type="string" minOccurs="0"/>
          <element name="failureReason" minOccurs="0">
            <simpleType>
              <restriction base="string">
                <enumeration value="notuniqueTraceReference"/>
                <enumeration value="operation_failed"/>
                <enumeration value="operation_failed_internal_problem"/>
              </restriction>
            </simpleType>
          </element>
        </sequence>
      </complexType>
    </element>
    <!-- listTraceJob Fault -->
    <element name="listTraceJobFault">
      <simpleType>
        <restriction base="string">
          <enumeration value="OperationFailed"/>
        </restriction>
      </simpleType>
    </element>
    <!-- listActivatedTraceJobs Request -->
    <element name="listActivatedTraceJobsRequest">
    </element>
    <!-- listActivatedTraceJobs Response -->
    <element name="listActivatedTraceJobsResponse">
      <complexType>
        <sequence>
          <element name="traceReferenceList">
            <complexType>
              <sequence minOccurs="0" maxOccurs="unbounded">
                <element name="traceReference" type="unsignedLong"/>
              </sequence>
            </complexType>
          </element>
          <element name="status">
            <simpleType>
              <restriction base="string">
                <enumeration value="Success"/>
                <enumeration value="Failure"/>
              </restriction>
            </simpleType>
          </element>
          <element name="failureReason" minOccurs="0">
            <simpleType>
              <restriction base="string">
                <enumeration value="operation_failed"/>
                <enumeration value="operation_failed_internal_problem"/>
              </restriction>
            </simpleType>
          </element>
        </sequence>
      </complexType>
    </element>
    <!-- listActivatedTraceJobs Fault -->
    <element name="listActivatedTraceJobsFault">
      <simpleType>
        <restriction base="string">
          <enumeration value="OperationFailed"/>
        </restriction>
      </simpleType>
    </element>
  </schema>
</types>
<message name="activateTraceJobRequest">
  <part name="parameter" element="traceIRPData:activateTraceJobRequest"/>
</message>
<message name="activateTraceJobResponse">
  <part name="parameter" element="traceIRPData:activateTraceJobResponse"/>
</message>
<message name="activateTraceJobFault">
  <part name="parameter" element="traceIRPData:activateTraceJobFault"/>
</message>
<message name="deactivateTraceJobRequest">
  <part name="parameter" element="traceIRPData:deactivateTraceJobRequest"/>
</message>
```

```
  <message name="deactivateTraceJobResponse">
    <part name="parameter" element="traceIRPData:deactivateTraceJobResponse"/>
  </message>
  <message name="deactivateTraceJobFault">
    <part name="parameter" element="traceIRPData:deactivateTraceJobFault"/>
  </message>
  <message name="listTraceJobRequest">
    <part name="parameter" element="traceIRPData:listTraceJobRequest"/>
  </message>
  <message name="listTraceJobResponse">
    <part name="parameter" element="traceIRPData:listTraceJobResponse"/>
  </message>
  <message name="listTraceJobFault">
    <part name="parameter" element="traceIRPData:listTraceJobFault"/>
  </message>
  <message name="listActivatedTraceJobsRequest">
    <part name="parameter" element="traceIRPData:listActivatedTraceJobsRequest"/>
  </message>
  <message name="listActivatedTraceJobsResponse">
    <part name="parameter" element="traceIRPData:listActivatedTraceJobsResponse"/>
  </message>
  <message name="listActivatedTraceJobsFault">
    <part name="parameter" element="traceIRPData:listActivatedTraceJobsFault"/>
  </message>
  <portType name="TraceIRPManagement">
    <operation name="activateTraceJob">
      <input message="traceIRPSystem:activateTraceJobRequest"/>
      <output message="traceIRPSystem:activateTraceJobResponse"/>
      <fault name="activateTraceJobFault" message="traceIRPSystem:activateTraceJobFault"/>
    </operation>
    <operation name="deactivateTraceJob">
      <input message="traceIRPSystem:deactivateTraceJobRequest"/>
      <output message="traceIRPSystem:deactivateTraceJobResponse"/>
      <fault name="deactivateTraceJobFault" message="traceIRPSystem:deactivateTraceJobFault"/>
    </operation>
    <operation name="listTraceJob">
      <input message="traceIRPSystem:listTraceJobRequest"/>
      <output message="traceIRPSystem:listTraceJobResponse"/>
      <fault name="listTraceJobFault" message="traceIRPSystem:listTraceJobFault"/>
    </operation>
    <operation name="listActivatedTraceJobs">
      <input message="traceIRPSystem:listActivatedTraceJobsRequest"/>
      <output message="traceIRPSystem:listActivatedTraceJobsResponse"/>
      <fault name="listActivatedTraceJobsFault"
message="traceIRPSystem:listActivatedTraceJobsFault"/>
    </operation>
  </portType>
  <binding name="TraceIRPManagement" type="traceIRPSystem:TraceIRPManagement">
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="activateTraceJob">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#activateTraceJob"
style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="activateTraceJobFault">
        <soap:fault name="activateTraceJobFault" use="literal"/>
      </fault>
    </operation>
    <operation name="deactivateTraceJob">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#deactivateTraceJob"
style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="deactivateTraceJobFault">
        <soap:fault name="deactivateTraceJobFault" use="literal"/>
      </fault>
    </operation>
    <operation name="listTraceJob">
```

```
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#listTraceJob" style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="listTraceJobFault">
        <soap:fault name="listTraceJobFault" use="literal"/>
      </fault>
    </operation>
    <operation name="listActivatedTraceJobs">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#listActivatedTraceJobs"
style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="listActivatedTraceJobsFault">
        <soap:fault name="listActivatedTraceJobsFault" use="literal"/>
      </fault>
    </operation>
  </binding>
  <service name="TraceIRPService">
    <port name="TraceIRPManagementPort" binding="traceIRPSystem:TraceIRPManagement">
      <soap:address location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.447#TraceIRP"/>
    </port>
    <port name="GenericIRPPort" binding="genericIRPSystem:GenericIRPBinding">
      <soap:address location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317#GenericIRP"/>
    </port>
    <port name="NotificationIRPNtfPort" binding="ntfIRPNtfSystem:NotificationIRPNtf">
      <soap:address
location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307#NotificationIRPNtf"/>
    </port>
  </service>
</definitions>
```

Annex B (informative): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**R**	**Subject/Comment**	**Cat**	**Old**	**New**
2009-09	SA#45	SP-090544	--	--	Presentation to SA for Information	--	--	1.0.0
2010-03	SA#47	SP-100050	--	--	Presentation to SA for Approval	--	1.0.0	2.0.0
2010-03	--	--	--	--	Publication of SA approved version	--	2.0.0	9.0.0

History

Document history		
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